



THE SUPERIOR
SOLUTION FOR
MINING INDUSTRY



THE TECHNOLOGY

The bondura® expanding PIN technology represent an important step forward for heavy industrial equipment.

- The conical sleeves expand when torquing the screws, creating a radial wedge force between pin and support
- The wedge effect prevents any relative movement (included rotational) between pin and support, and the bondura® pin assembly makes the joint solid and safe
- Wear and tear in the support are eliminated
- The risk of breakage of pin is notably reduced
- Increased safety for personnel
- Minimized production downtime
- Maximized cost effectiveness.

All bondura® solutions are optimized to comply with customer requirements such as:

- Type of industry, machine, and position
- Operational and environmental challenges
- Material qualities, hardness, and surface
- Protection



CAT 777G

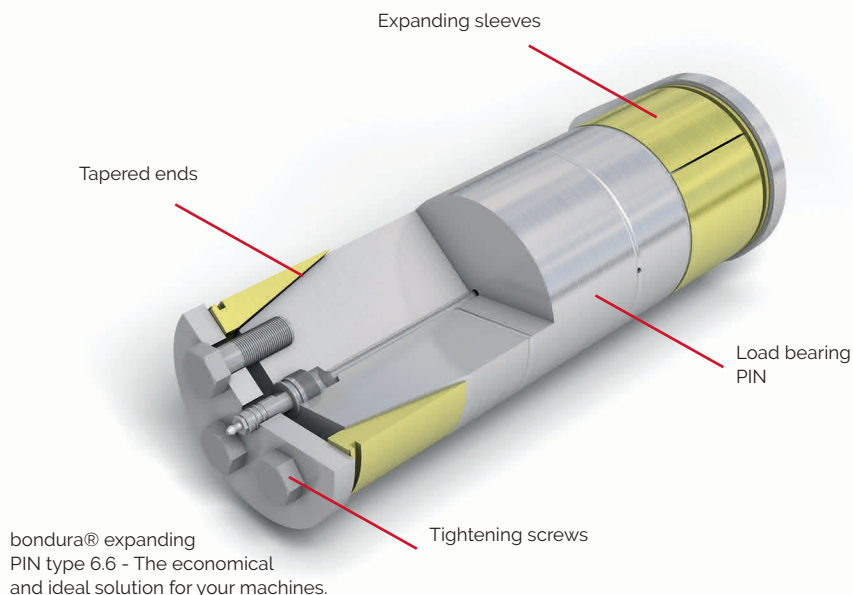
At Norsk Stein (a Norwegian company owned by Heidelberg Cement and Mibau Stema), the bondura® technology solves problems with wear and tear in a CAT 777G.

By upgrading the mechanical joints, the service, maintenance, and repair costs have been reduced. And at the same time, reliability, availability and productivity of the heavy machines have increased.



Quick and secure installation in combination with the possibility to perform the job on site, eliminates logistic challenges related to transporting major components to specialized workshops.

Bondura Technology is an innovative and world class company with a comprehensive range of different expanding pin solutions for any type of machine. The company uses creativity and world-class-knowledge to resolve your issues and problems with bolted connections.

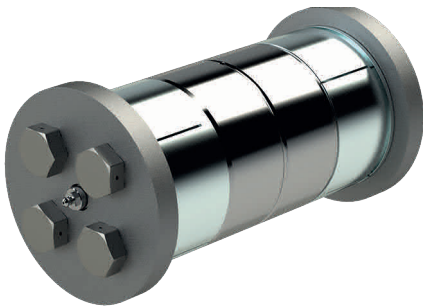




BONDURA® 6.6

The 6.6 type of expanding pin can be installed and tightened with a handheld torque wrench. It expands by use of tightening screws. The design is applicable to multiple industries.

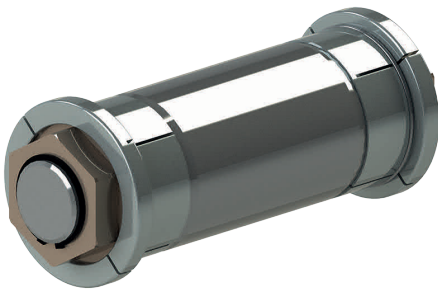
- Prevents wear in the support bores
- Easy to mount, install, and retrieve
- Safe and secure for personnel
- Economic solution for the company
- An intelligent solution for everyone involved



BONDURA® 3.3

The 3.3 type of expanding pin is a genius design which make it possible to install the complete assembly in one single piece. This makes both the installation and retrieval smooth and fast. The bondura® 3.3 design has been a great success within the mining industry in Europe.

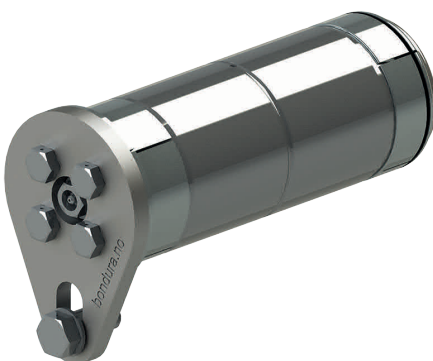
- A quick installation and retrieval
- Prevents wear and tear in the support bores
- Safe and secure for personnel
- Economic solution for the company
- An easy-to-handle solution for everyone involved



BONDURA® 6.1

The 6.1 type of expanding pin can expand radially in both ends, even with access from one end only.

- Perfect to use in positions with poor access
- Prevents wear and tear in the support bores
- Prolongs the lifetime of the equipment
- A safe, secure, and intelligent solution





General advantages

- Reduced costs and time consumption during maintenance and repairs
- Increased operational reliability and safety
- Quicker installation and retrieval time
- Higher precision with solid connections
- Simple and easy procedures for inspection and service

Optimal for all machines

- Front loaders
- Excavators
- Dumper trucks
- Drilling equipment
- Buckets
- Rammers
- Hydraulic hammers
- Grippers
- Cranes of different types and models
- Any other type of machines and equipment

EXCAVATOR

DESCRIPTION	STANDARD PIN	BONDURA
COST OF PINS (6 EA)	3 900	7 200
REWORK & INSTALLATION	16 000	8 000
REWORK & REPLACEMENT AFTER 3-5 YEARS	19 900	0
NEW CERTIFICATION	0	0
DOWNTIME	32 HOURS	8 HOURS
TOTAL COST OVER 9 YEARS (USD)	39 800	15 200

DUMPER TRUCK

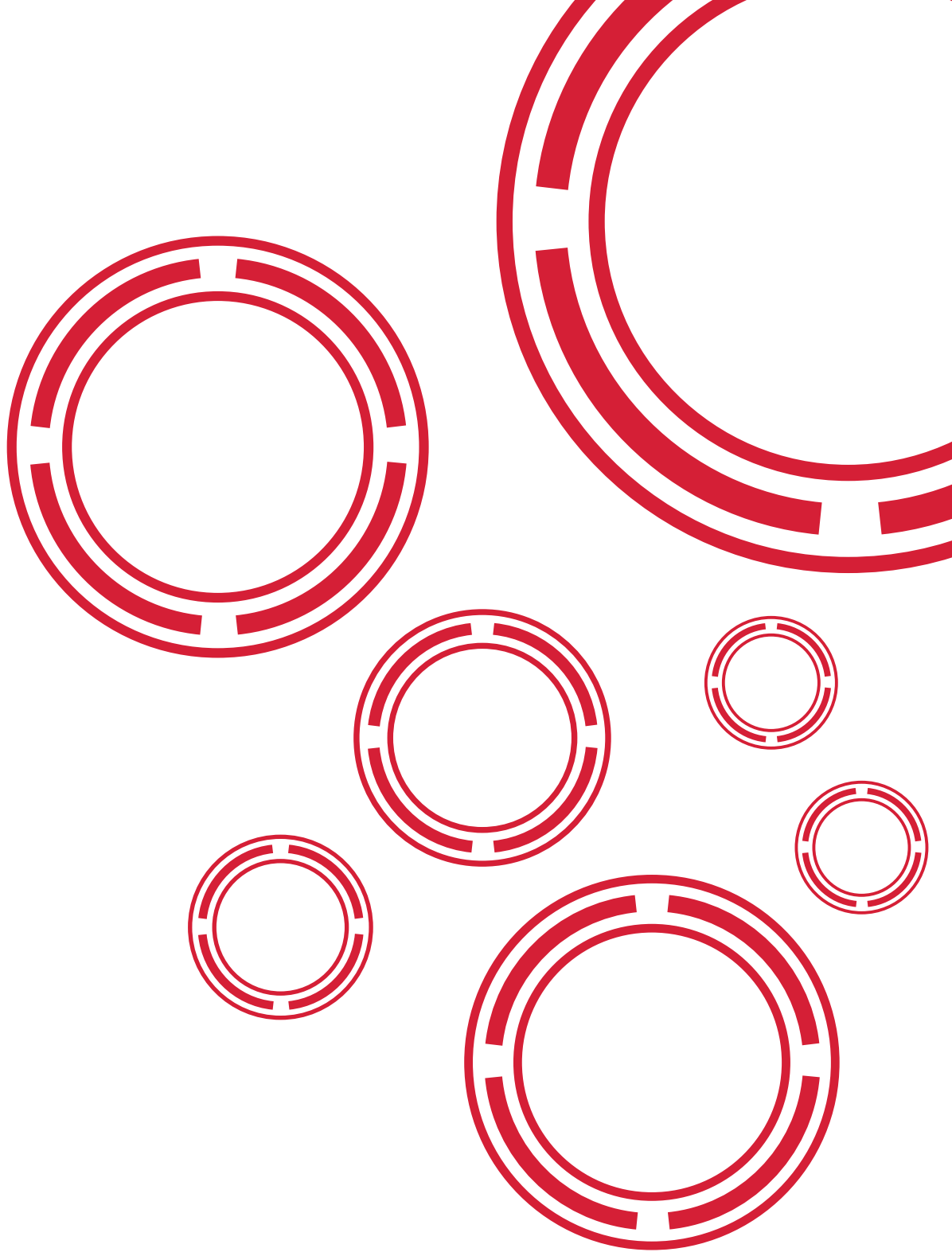
DESCRIPTION	STANDARD PIN	BONDURA
COST OF PINS (8 EA)	3 500	5 000
REWORK & INSTALLATION	6 200	2 400
REWORK & REPLACEMENT AFTER 3-5 YEARS	9 700	0
NEW CERTIFICATION	0	0
DOWNTIME	32 HOURS	6 HOURS
TOTAL COST OVER 9 YEARS (USD)	19 400	7 400



BONDURA® MULTI TOOL

Extraction tools for bondura® expanding pins and conical sleeves.
Mechanical tools for pins up to Ø80 mm in diameter,
and hydraulic tools up to Ø500 mm.





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BONDURA® EXPANDING PINS FOR MECHANICAL JOINTS



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